

REMARKS

In the Office Action the Examiner noted that claims 15-29 are pending in the application, and the Examiner rejected all claims. The Examiner's rejections are traversed below, and reconsideration of all rejected claims is respectfully requested.

Objection To the Specification

In item 1 on page 2 of the Office Action the Examiner objected to the Specification due to alleged informalities.

The Examiner noted that the word "repetition" in Paragraph [0027] was misspelled as "repletion", and required correction. By this Amendment, the spelling error has been corrected.

The Examiner also alleged that Paragraph [0027], which contains the language "and/or", does not support claims 17 and 26. The Applicants respectfully traverse this objection for multiple reasons. First, the Applicants are unsure as to why the Examiner would allege that support for the claims need to come from only this one paragraph of the specification, when it is apparent that other portions of the specification do obviously provide support for the claims, such as, for example, Paragraph [0048]. Second, the Applicants are not able to understand what the Examiner is actually basing the objection on. The cited paragraph states that identical and/or different repletion rates are transmitted, while the cited claims recite at least one of identical and different repetition rates. In other words, the claims indicate that either identical repetition rates, different repetition rates, or both may be used (see Paragraph [0052] regarding the use of the phrase "at least one of..."), which is fully supported by the and/or language in Paragraph [0027].

Therefore, the Applicants respectfully request the withdrawal of the Examiner's objection to the specification.

Claim Rejections Under 35 USC §102

In item 3 on pages 2-7 of the Office Action the Examiner rejected claims 15-29 under 35 U.S.C. §102(b) as being anticipated by TSG-RAN Working Group 2, Definitions and Characteristics of Multicast Channels (hereinafter referred to as "WG2"). The Applicants respectfully traverse the Examiner's rejections of these claims.

Claim 15 of the present application recites a method including informing the subscriber stations of a service which is provided for several subscribers, prior to the transmission of useful

information, by providing, via a multimedia broadcast/multicast service-dedicated paging indicator channel, a paging indicator for service control information on a service control channel. Therefore, the MBMS service-dedicated paging indicator channel and service control channel are two separate channels, with the paging indicator being transmitted on the MBMS service-dedicated paging indicator channel and the service control information being transmitted on the service control channel. The Applicants respectfully submit that WG2 does not disclose or suggest at least these features of claim 15.

WG2 discloses a multicast control channel (MCCH) which periodically transmits control information for a plurality of non-periodic multicast channels (MCH). By monitoring the MCCH, a UE knows when to decode the appropriate frames of the MCH, because the MCCH gives the UE the location information of the frame in the MCH. The cycle of the MCCH is a period corresponding to the number of IMG1 groups. Therefore, the UE monitors the MCCH at the appropriate points in each period according to the IMG1 group(s) of the UE, and decodes the frames of the MCH that the UE is instructed to by the MCCH.

This method is in direct contrast to the method of claim 15, in which a paging indicator is transmitted to a subscriber station to inform the station that service control information is going to be transmitted on a service control channel. The MCCH of WG2 corresponds to the recited service control channel of claim 15. However, the Examiner has alleged that this single channel MCCH of WG2 is providing both the useful information and the paging indicator recited in claim 15. In other words, the Examiner has alleged that the control information on MCCH is both the paging indicator and the service control information. The Applicants respectfully submit that it would be apparent to one skilled in the art that this is not a reasonable interpretation.

In support of the allegation, the Examiner cited that language of WG2 which states that the MCCH "is similar to the current Paging Channel". However, this incomplete portion of WG2 is misleading. The full text reads, "It is similar to the current Paging Channel in that it has a cycle, which is the period corresponding to the number of IMG1 groups." In other words, the similarity is that MCCH has a cycle. But it is apparent that the MCCH is not an MBMS-dedicated paging indicator channel. Rather, the UE of WG2 would apparently have to monitor the MCCH at its ascribed point in each cycle to determine if MCH information is to then be decoded. This is in direct contrast to claim 15 of the present application, in which a MBMS-dedicated paging indicator channel transmits a paging indicator to the subscriber stations to inform them that service control information is coming on the service control channel. One apparent advantage afforded to an embodiment enabled by claim 15 is that the subscriber station does not have to

constantly monitor the service control channel for service control information. Rather, it would only have to read the service control channel after receiving a paging indicator from the MBMS-dedicated paging indicator channel.

The Examiner also alleges, later in the Office Action, that page 7 of WG2 states that the UE knows when to listen to MCCH in advance. Again, the Examiner has omitted the important remainder of that statement, which indicates that the UE knows in advance based on an agreement between UE and UTRAN, and the information from BCH. In other words, the UE apparently knows at what point in the cycle to monitor the MCCH, because there is not type of paging indicator as recited in claim 15.

In more detail, WG2 describes an MCCH which is similar to the known Paging Channel (PCH) insofar as it presents a cycle, the period of which corresponds to a number of IMG1 groups. One IMG1 group serves for the identification of a determined service and service provider (page 3, last paragraph). A user (subscriber) station that would like to receive a multicast service with a determined number must receive the MCCH at the times that are provided for these IMG1 numbers. See Figure 2 in WG2, wherein the section of the MCCH corresponding to the IMG1 number finds the user stations, which indicate when the data of the service are transmitted on a Multicast Channel.

The MCCH described in WG2 presents cycles as a Paging Channel. However, it apparently does not deal with a Paging Indicator Channel (PICH). Because paging indicators are sent on a PICH in the form of bits with the value of 0 or 1 while on the MCCH in WG2, data (that is to say, more than 1 bit) are transmitted that are control data for the Multicast Channel (MCH). Thus, in the case of the MCCH it does not deal with a channel that can be designated as a PICH.

This is in direct contrast with an example embodiment enabled by claim 15, in which paging indicators are transmitted on a PICH dedicated for MBMS services. The terms paging indicator and paging indicator channel are unambiguously understood by one skilled in the art within the sense of the standard documents cited in the original documentation 3GPP TS 25.304 V5.3.0 (2003-06) as well as chapter 5.3.3.10 in 3GPP TS 25.211 V5.4.0 (2003-06).

The Applicants respectfully submit that one skilled in the art would properly understand WG2 in the sense that a user station that would like to receive a service with a determined IMG1 number, which is available in a geographic area, must continuously receive the corresponding section of the MCCH, regardless of whether in fact data for the multicast service await to be transmitted with this number, i.e., regardless of whether corresponding control data are in fact

transmitted on the MCCH at this time. Thus, in many instances, the user station will receive the corresponding section on the MCCH and after the decoding it will ascertain that there was no control data for the desired service. This understanding of WG2 results from the sentence in 6.1 on page 7: "UE knows its IMG1 and when to listen to Multicast Control Channel (MCCH) in advance based on the agreement between US and UTRAN, and the information from BCH," since from the BCH can only be gathered that which is the cycle of the MCCH and whether the desired Multicast service is available. From the sentence in 6.2 on page 7 one skilled in the art would further gather that the user station merely because of the availability of a Multicast Service decodes in a cyclic manner the corresponding portion of the MCCH. It is a matter of course for the expert that the section of the desired IMG1 carries data on the MCCH only if the Multicast Service is subsequently transferred to the MCH.

At the same time, however, the corresponding section on the MCCH must be kept free at all times for the control data of the Multicast Service, even if at that time no control data is to be transmitted. Even if no control data are being transmitted, the user station can thus receive and decode (in vain) the corresponding section of the MCCH.

In contrast thereto, a paging indicator refers to a Paging Channel on which the control data are transmitted, which subsequently facilitates the reception of data of which the imminent transfer was the reason for the transmitting of the Paging Indicator. Thus, such paging deals with a three-stage process of paging on a paging indicator channel, the receiving of control data on an assigned Paging Channel, and the receiving of user data on another channel.

In direct contrast, WG2 describes a two-stage process that has the disadvantage that the section of the MCCH to which is assigned the desired IMG1 must always be decoded. This is connected with a higher cost (effort, expense, expenditure, etc.) than the detecting of a Paging Indicator represented by a bit.

The Applicants respectfully note that the above detailed discussion is provided simply to aid the Examiner's understanding of at least these differences between claim 15 and WG2. The Applicants do not rely on any portion of the discussed embodiments, advantages, etc., as providing patentably distinguishable characteristics over WG2. Rather, the Applicants do rely solely on the actual recited features of claim 15 as being patentably distinguishable over WG2, namely "informing the subscriber stations of a service which is provided for several subscribers, prior to the transmission of useful information, by providing, via a multimedia broadcast/multicast service-dedicated paging indicator channel, a paging indicator for service control information on a service control channel". As previously discussed, no such paging indicator of a multimedia

broadcast/multicast service-dedicated paging indicator channel is disclosed or contemplated by WG2. Further, the Applicants respectfully submit that any contrary allegation that the Applicants are relying on anything other than the actual recited features of claim 15 is improper, as no such reliance has been implied or expressed, and in fact any such alleged reliance is disavowed.

Therefore, the Applicants respectfully submit that WG2 does not disclose or suggest at least the feature of "informing the subscriber stations of a service which is provided for several subscribers, prior to the transmission of useful information, by providing, via a multimedia broadcast/multicast service-dedicated paging indicator channel, a paging indicator for service control information on a service control channel." Accordingly, WG2 does not disclose every element of the Applicants' claim 15. In order for a reference to anticipate a claim, the reference must teach each and every element of the claim (MPEP §2131). Therefore, since WG2 does not disclose the features recited in independent claim 15, as stated above, it is respectfully submitted that claim 15 patentably distinguishes over WG2, and withdrawal of the §102(b) rejection is earnestly and respectfully solicited.

Claims 16-23 depend from claim 15 and include all of the features of that claim plus additional features which are not disclosed or suggested by WG2. Therefore, it is respectfully submitted that claims 16-23 also patentably distinguish over WG2.

Independent claims 24 and 28-29 recite similar features to those discussed above in regard to claim 15, and which are not disclosed or suggested by WG2. Therefore, it is respectfully submitted that claims 24 and 28-29 also patentably distinguish over WG2.

Claims 25-27 depend from claim 24 and include all of the features of that claim plus additional features which are not disclosed or suggested by WG2. Therefore, it is respectfully submitted that claims 25-27 also patentably distinguish over WG2.

Claim Rejection Under 35 USC §103

In item 5 on page 8 of the Office Action the Examiner rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over WG2 in view of U.S. Patent No. 7,242,919, issued to Kim et al. (hereinafter referred to as "Kim"). The Applicants respectfully traverse the Examiner's rejection of this claim.

As discussed in the previous section of this Amendment, claim 15 patentably distinguishes over WG2. Further, as Kim apparently merely discloses a paging method using

added bits, Kim does not cure the deficiency of WG2 in regard to claim 15. Therefore, as claim 21 depends from claim 15 and includes all of the features of that claim plus additional features which are not disclosed or suggested by the cited references, it is respectfully submitted that claim 21 patentably distinguishes over the cited references.

Further, the Applicants respectfully submit that there is not motivation to combine the references, because no paging method is contemplated by WG2. Further, the Examiner stated that it would allow extra information to be placed in the MCCH, but the only information the MCCH carries is the location information, and therefore no additional information is needed. The Applicants respectfully submit that it is clear that the references teach away from one another.

Summary

There being no further outstanding objections or rejections, it is respectfully submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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